FIG. 1

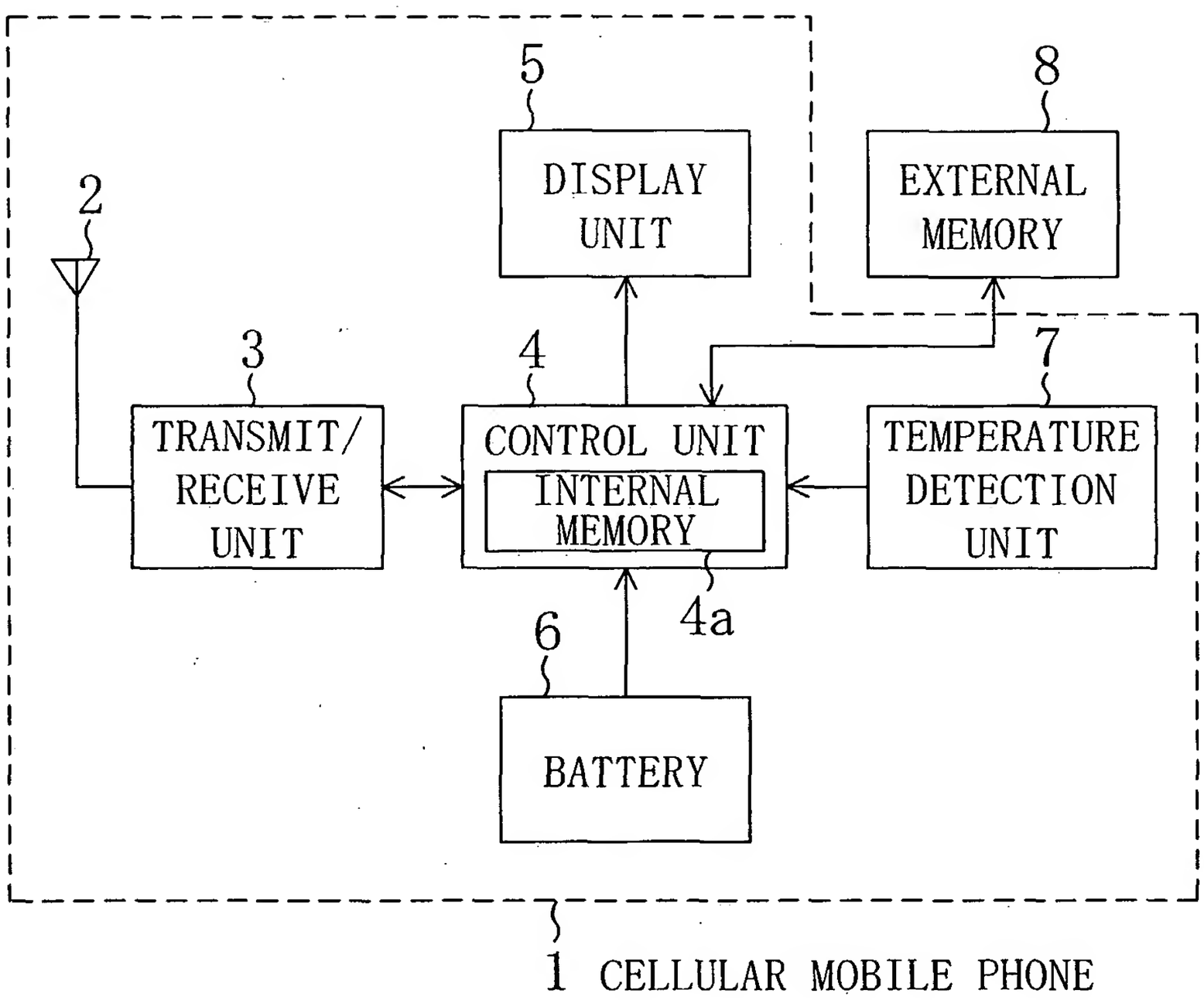

5
DISPLAY UNIT
8
EXTERNAL MEMORY
2
3
TRANSMIT/ RECEIVE UNIT
4
CONTROL UNIT
INTERNAL MEMORY
4a
7
TEMPERATURE DETECTION UNIT
6
BATTERY
1 CELLULAR MOBILE PHONE

FIG. 2

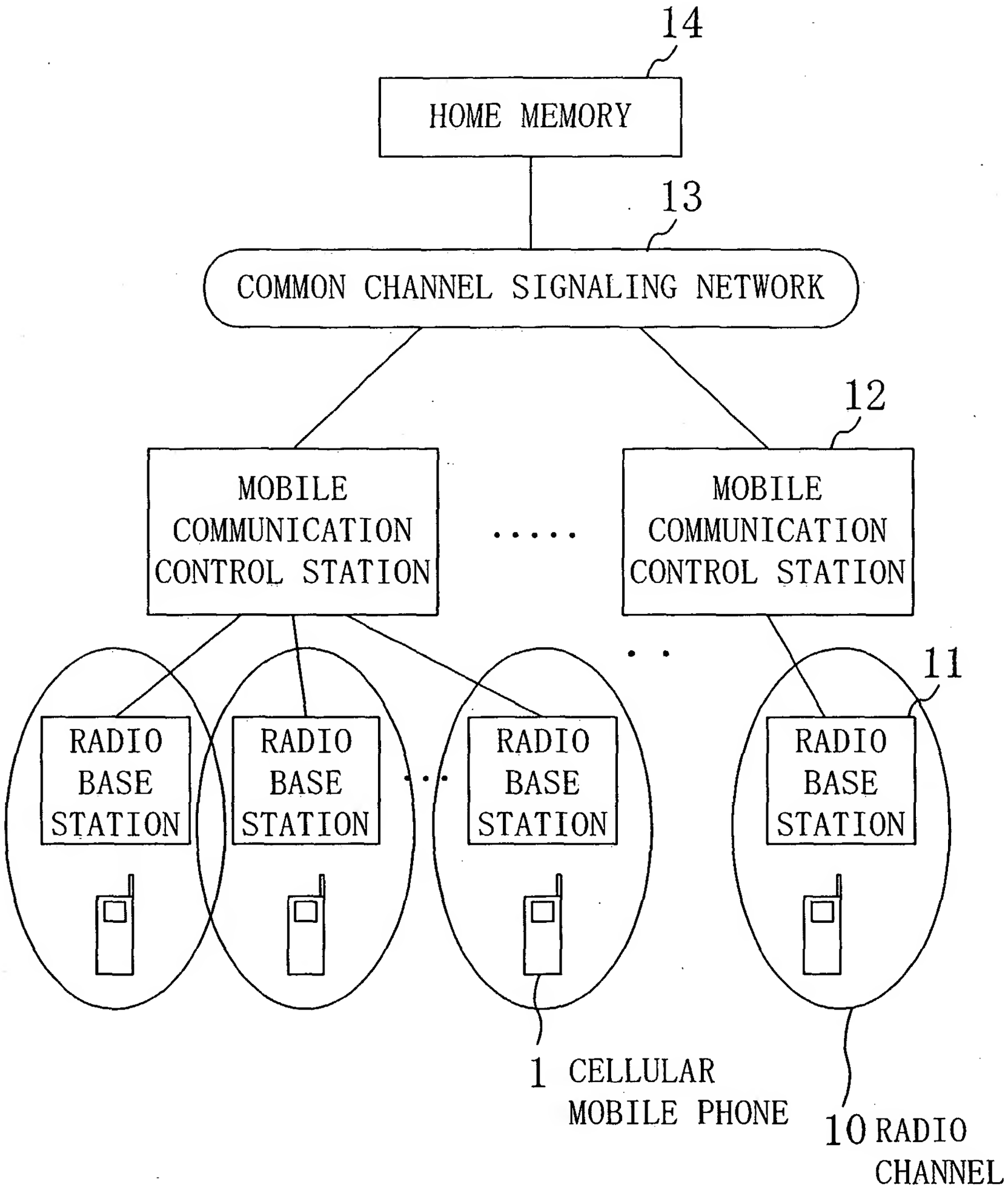

14
HOME MEMORY
13
COMMON CHANNEL SIGNALING NETWORK
12
MOBILE COMMUNICATION CONTROL STATION
MOBILE COMMUNICATION CONTROL STATION
11
RADIO BASE STATION
RADIO BASE STATION
RADIO BASE STATION
RADIO BASE STATION
1 CELLULAR MOBILE PHONE
10 RADIO CHANNEL

FIG. 3

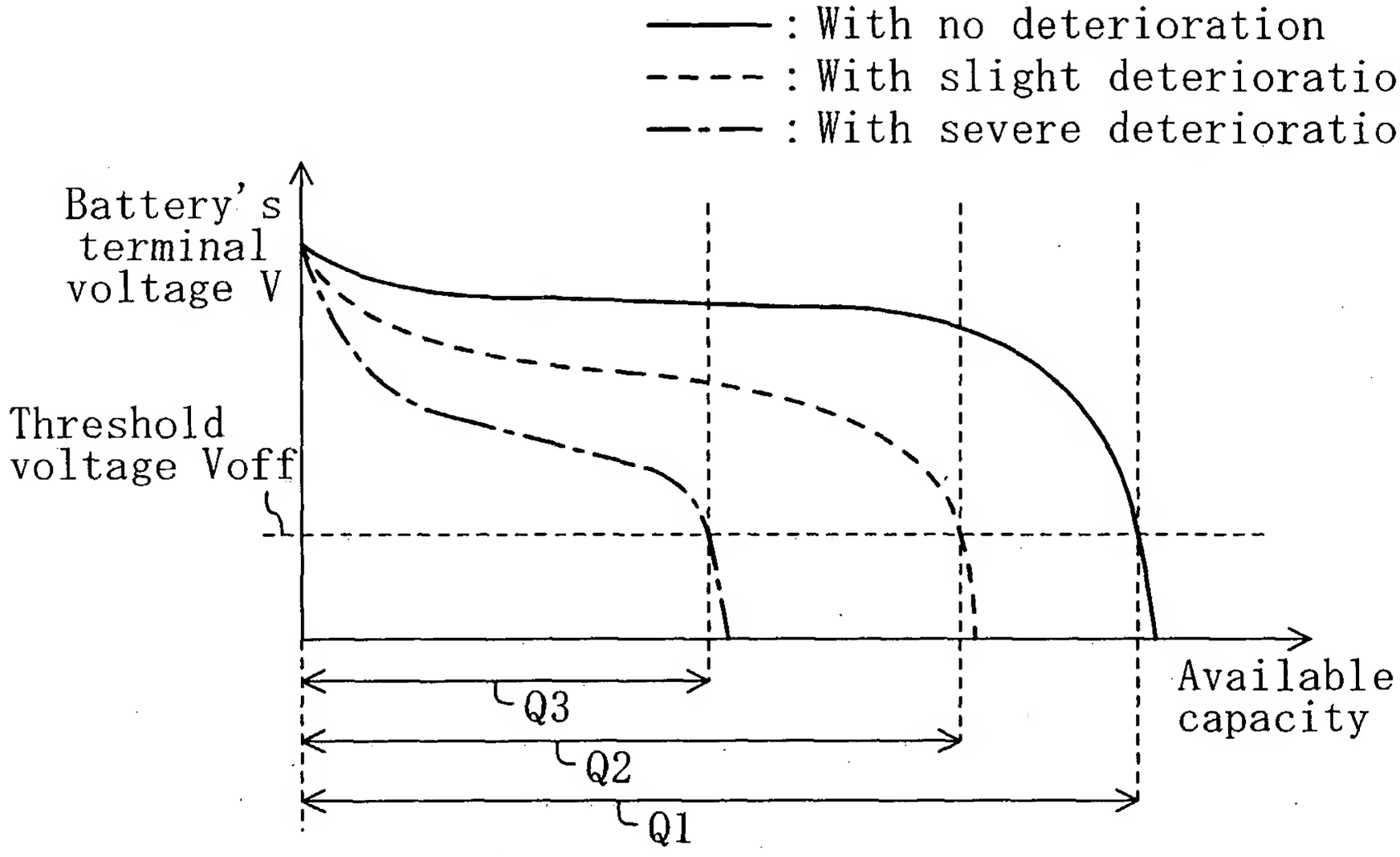

——— : With no deterioration
- - - - : With slight deterioration
—·— : With severe deterioration
Battery's terminal voltage V
Threshold voltage Voff
Available capacity
Q3
Q2
Q1

FIG. 4

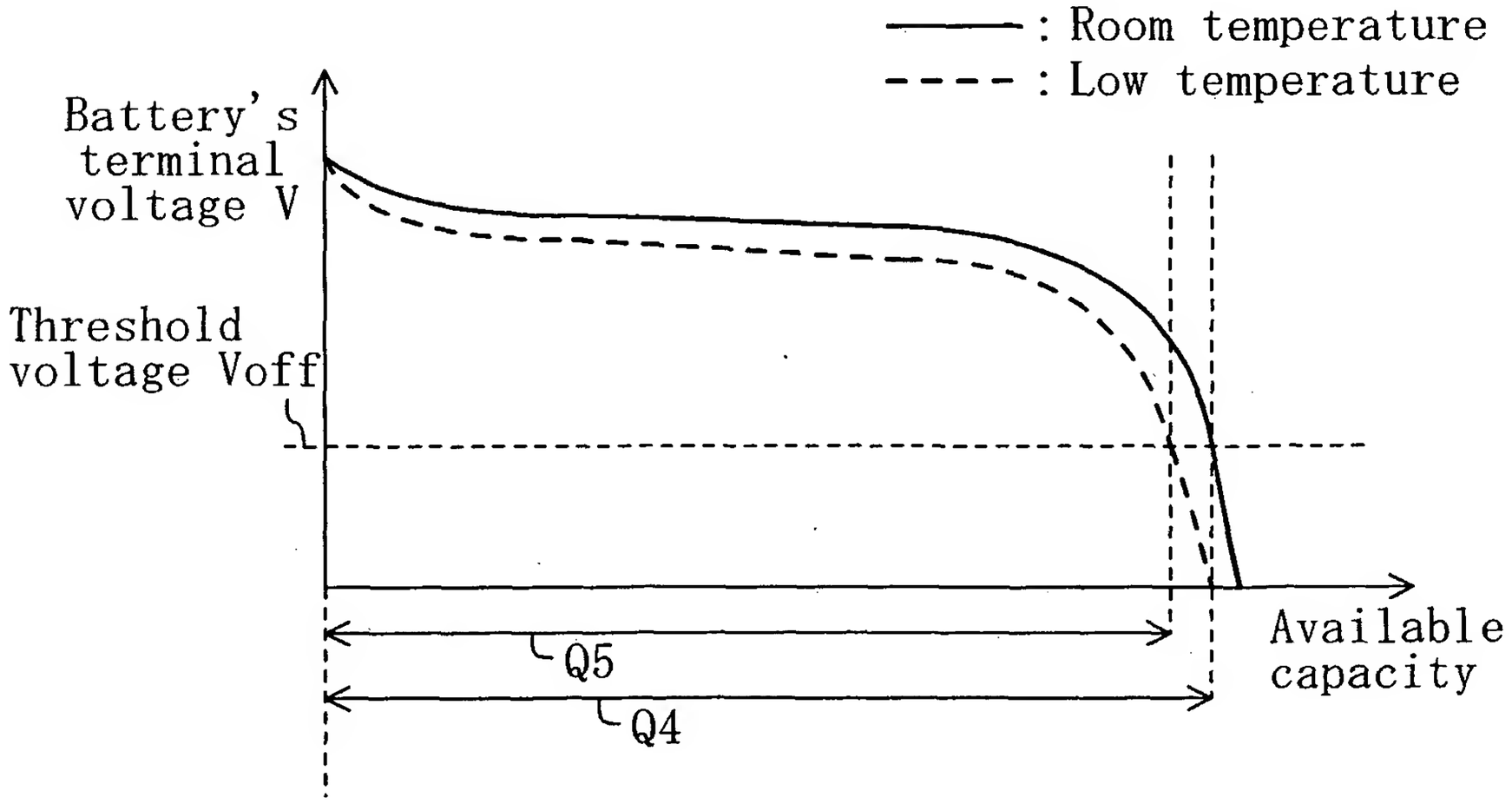

——— : Room temperature
- - - - : Low temperature
Battery's terminal voltage V
Threshold voltage Voff
Available capacity
Q5
Q4

FIG. 5

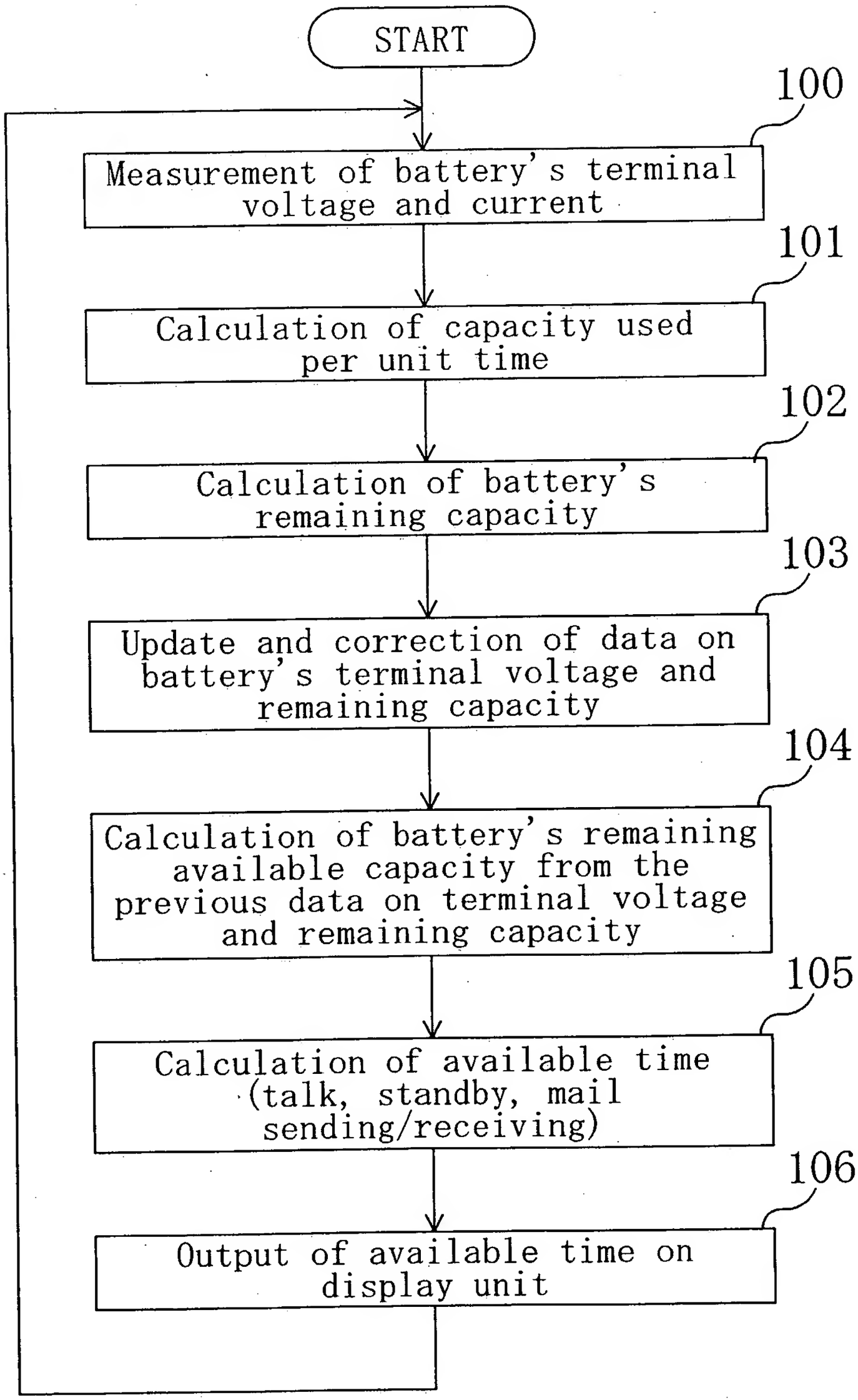

START
100
Measurement of battery's terminal voltage and current
101
Calculation of capacity used per unit time
102
Calculation of battery's remaining capacity
103
Update and correction of data on battery's terminal voltage and remaining capacity
104
Calculation of battery's remaining available capacity from the previous data on terminal voltage and remaining capacity
105
Calculation of available time (talk, standby, mail sending/receiving)
106
Output of available time on display unit

FIG. 6

Terminal voltage V	Threshold voltage Voff	....	V(n)	V(n-1)	....	V(1)	V(0)
Remaining capacity Q	Threshold remaining capacity Qoff	....	Q(n)	Q(n-1)	....	Q(1)	Q(0)

FIG. 7

Wave intensity / Mode	High	Medium	Low
Standby	Iwait1	Iwait2	Iwait3
Talk	Italk1	Italk2	Italk3
Mail receiving	Imailget1	Imailget2	Imailget3
Mail sending	Imailsend1	Imailsend2	Imailsend3
Internet connection	Inet1	Inet2	Inet3
Backup (internal memory)	Ibackup_in	Ibackup_in	Ibackup_in
Backup (home memory)	Ibackup_hm1	Ibackup_hm2	Ibackup_hm3
Backup (other external memory)	Ibackup_out	Ibackup_out	Ibackup_out

FIG. 8

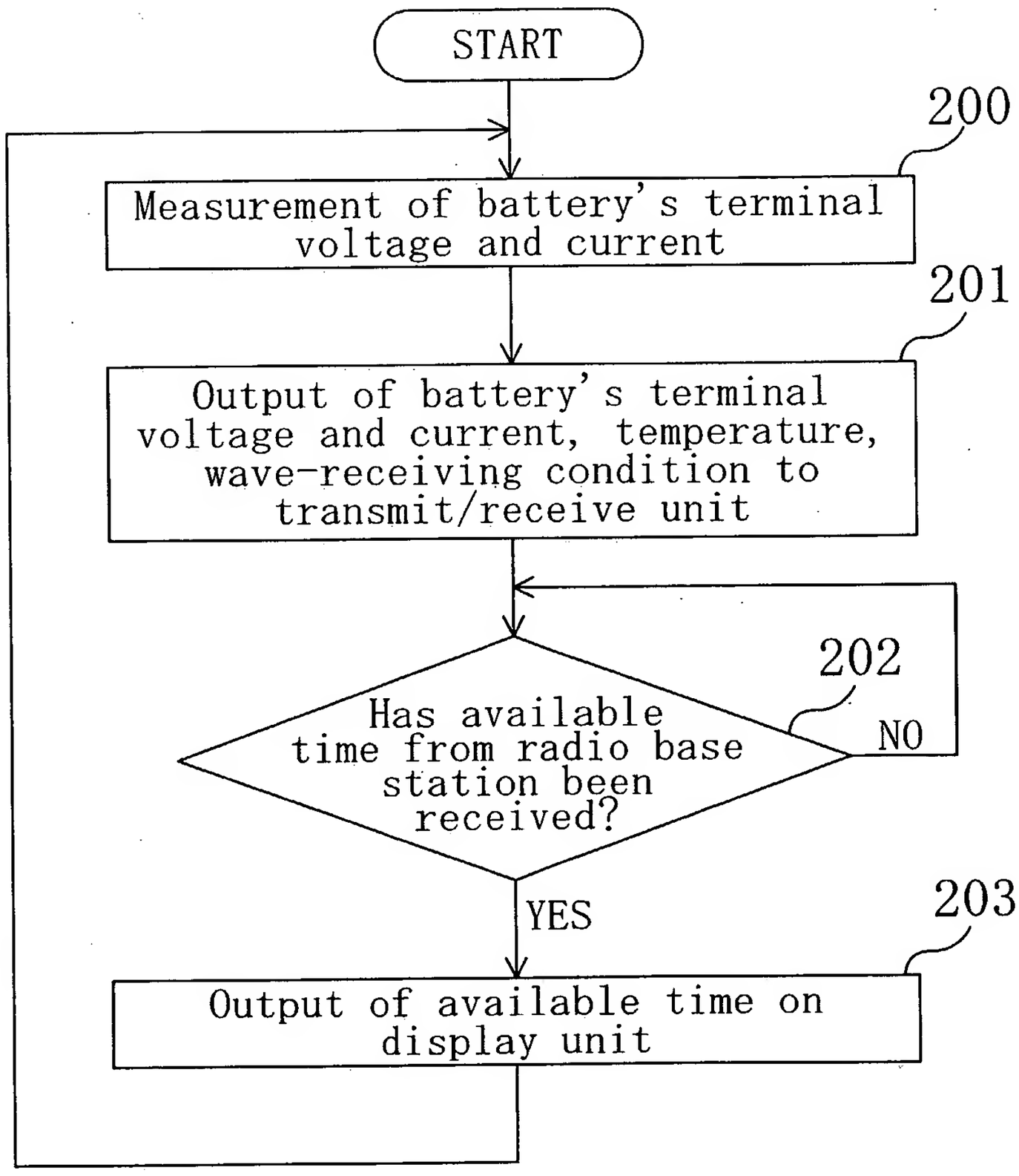

START
200
Measurement of battery's terminal voltage and current
201
Output of battery's terminal voltage and current, temperature, wave-receiving condition to transmit/receive unit
202
Has available time from radio base station been received?
NO
YES
203
Output of available time on display unit

FIG. 9

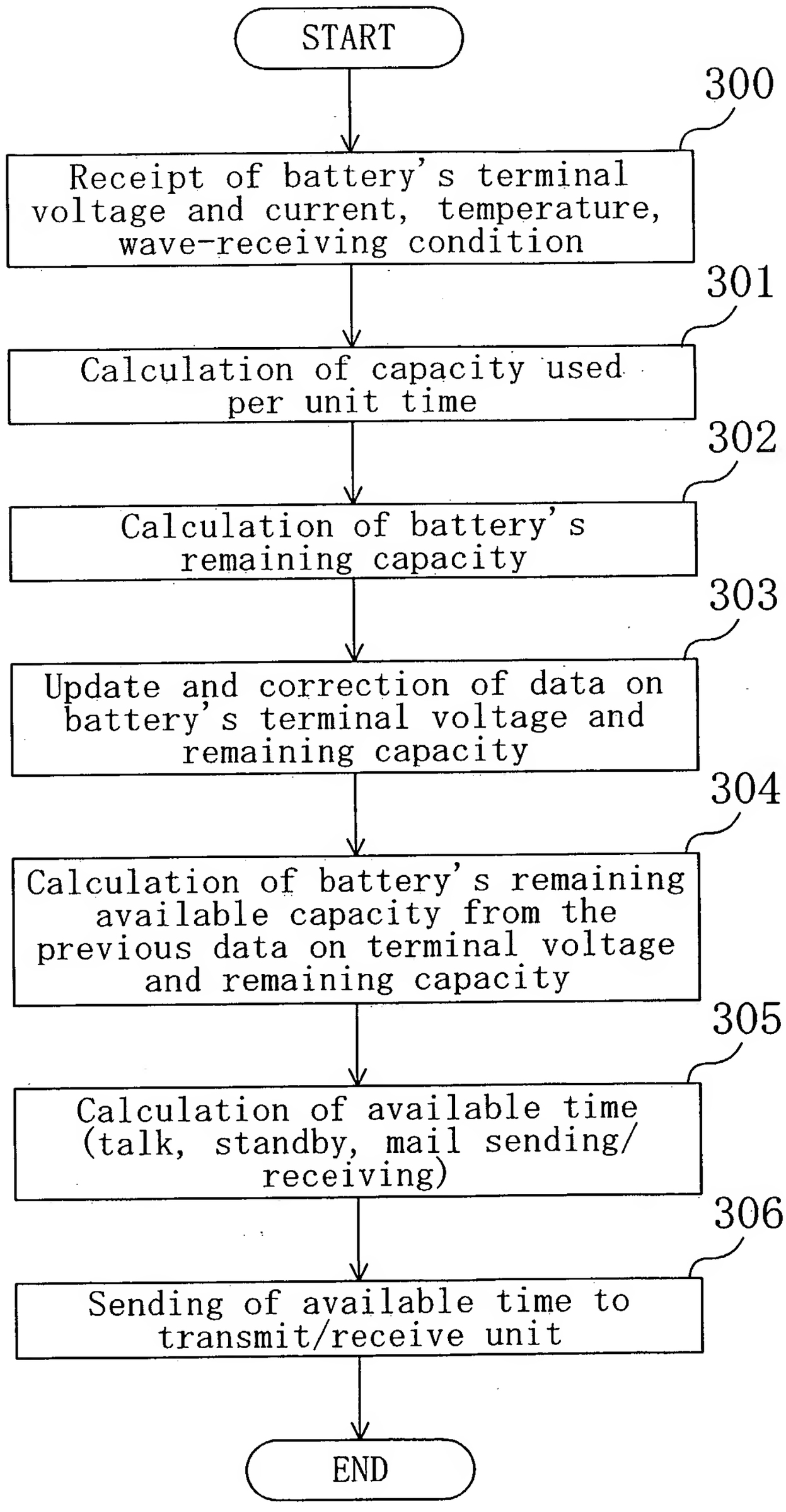

START
300
Receipt of battery's terminal voltage and current, temperature, wave-receiving condition
301
Calculation of capacity used per unit time
302
Calculation of battery's remaining capacity
303
Update and correction of data on battery's terminal voltage and remaining capacity
304
Calculation of battery's remaining available capacity from the previous data on terminal voltage and remaining capacity
305
Calculation of available time (talk, standby, mail sending/ receiving)
306
Sending of available time to transmit/receive unit
END

FIG. 10

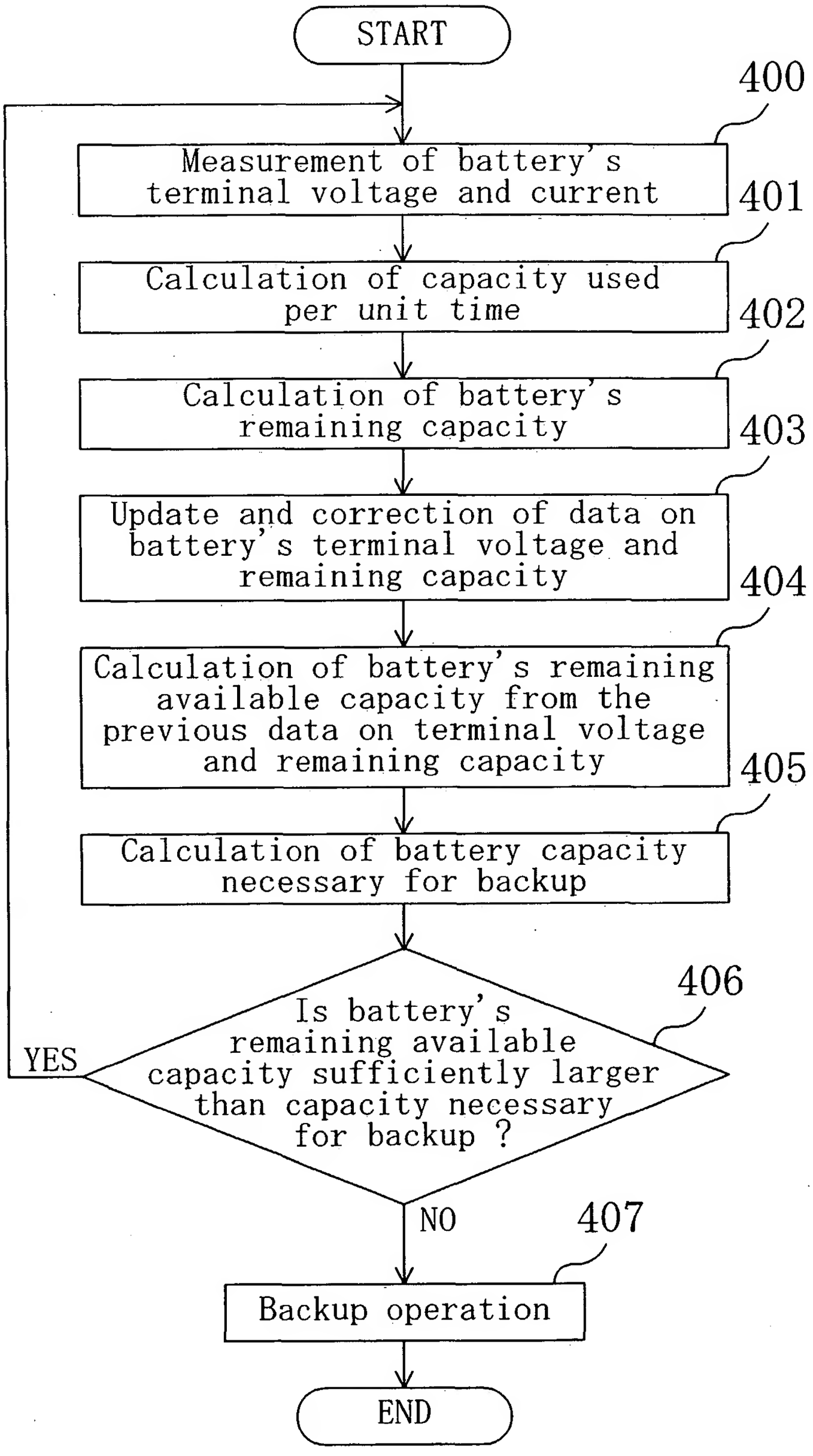

START
400
Measurement of battery's terminal voltage and current
401
Calculation of capacity used per unit time
402
Calculation of battery's remaining capacity
403
Update and correction of data on battery's terminal voltage and remaining capacity
404
Calculation of battery's remaining available capacity from the previous data on terminal voltage and remaining capacity
405
Calculation of battery capacity necessary for backup
406
Is battery's remaining available capacity sufficiently larger than capacity necessary for backup ?
YES
NO
407
Backup operation
END

FIG. 11

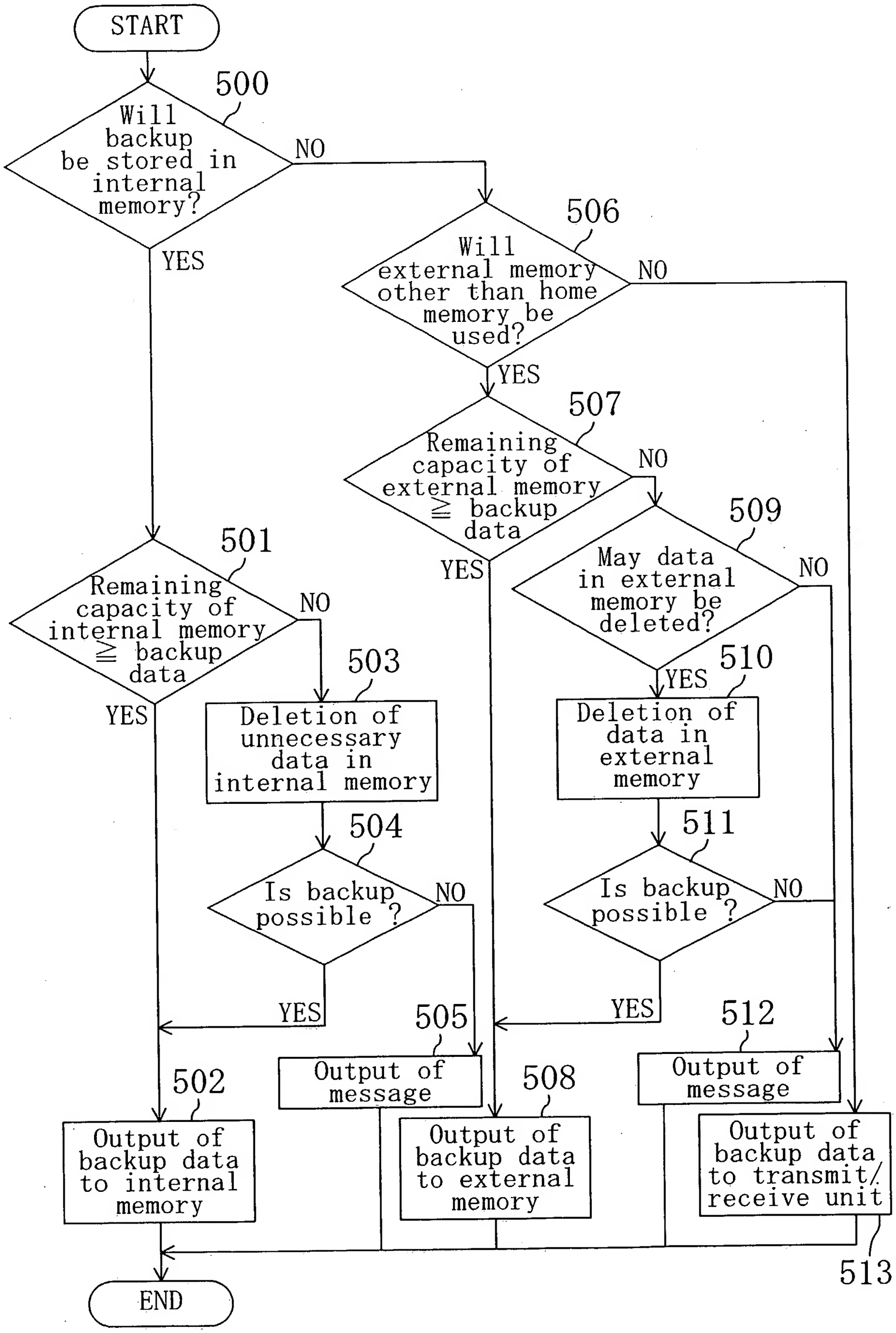

START
500
Will backup be stored in internal memory?
NO
YES
506
Will external memory other than home memory be used?
NO
YES
507
Remaining capacity of external memory ≧ backup data
NO
YES
509
May data in external memory be deleted?
NO
YES
510
Deletion of data in external memory
511
Is backup possible ?
NO
YES
512
Output of message
501
Remaining capacity of internal memory ≧ backup data
NO
YES
503
Deletion of unnecessary data in internal memory
504
Is backup possible ?
NO
YES
505
Output of message
502
Output of backup data to internal memory
508
Output of backup data to external memory
Output of backup data to transmit/receive unit
513
END

FIG. 12

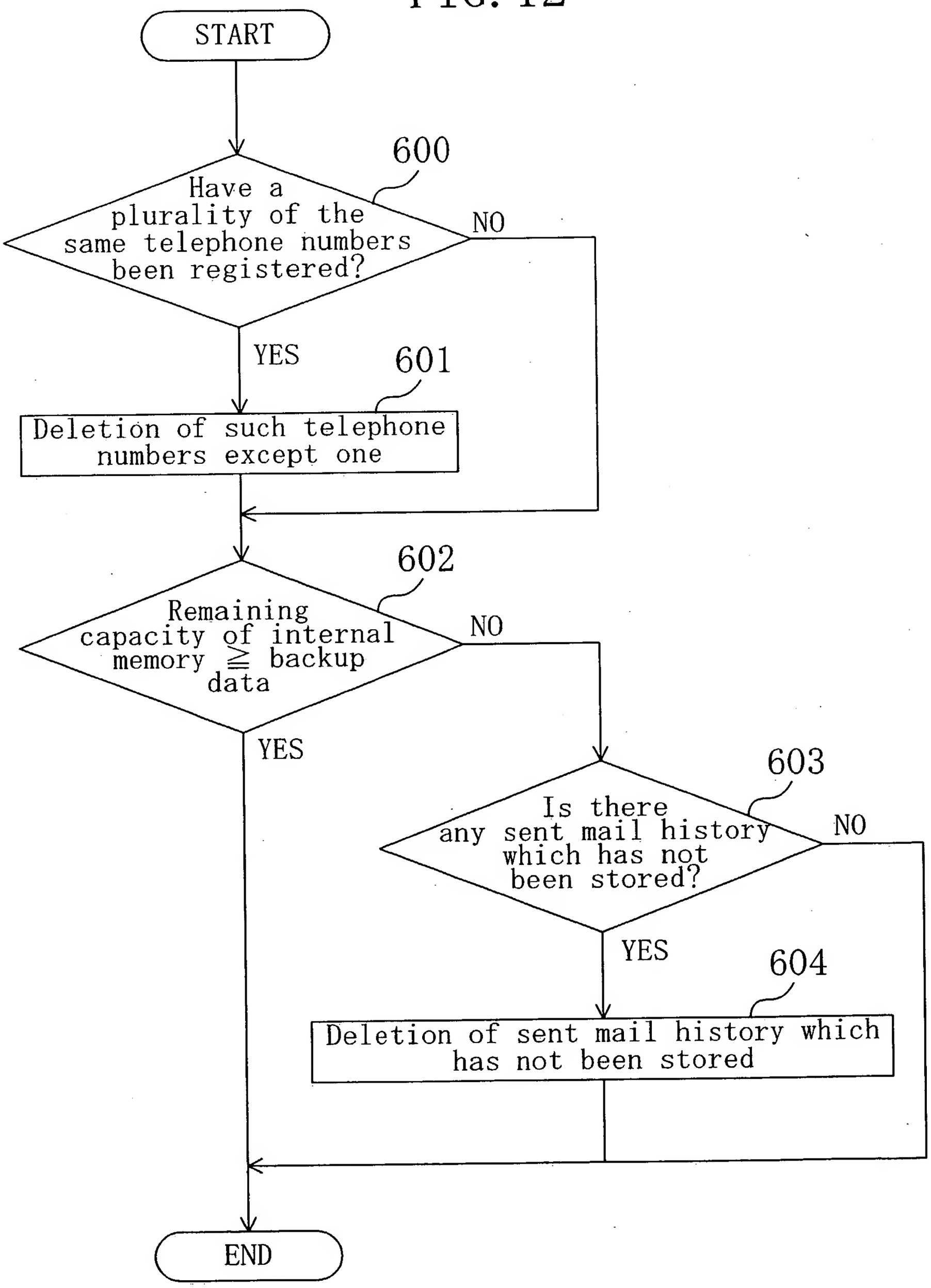

START
600
Have a plurality of the same telephone numbers been registered?
NO
YES
601
Deletion of such telephone numbers except one
602
Remaining capacity of internal memory ≧ backup data
NO
YES
603
Is there any sent mail history which has not been stored?
NO
YES
604
Deletion of sent mail history which has not been stored
END

FIG. 13

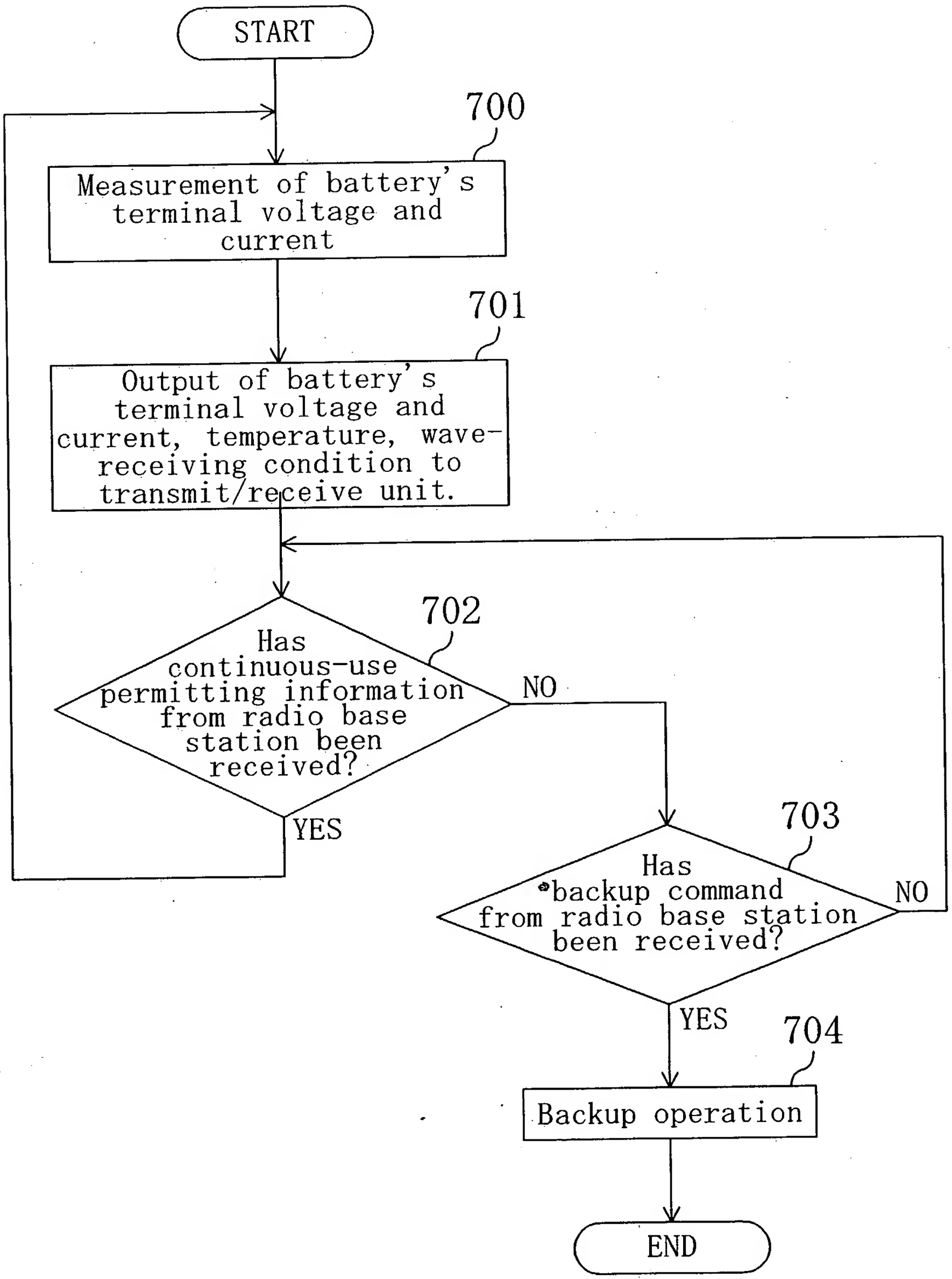
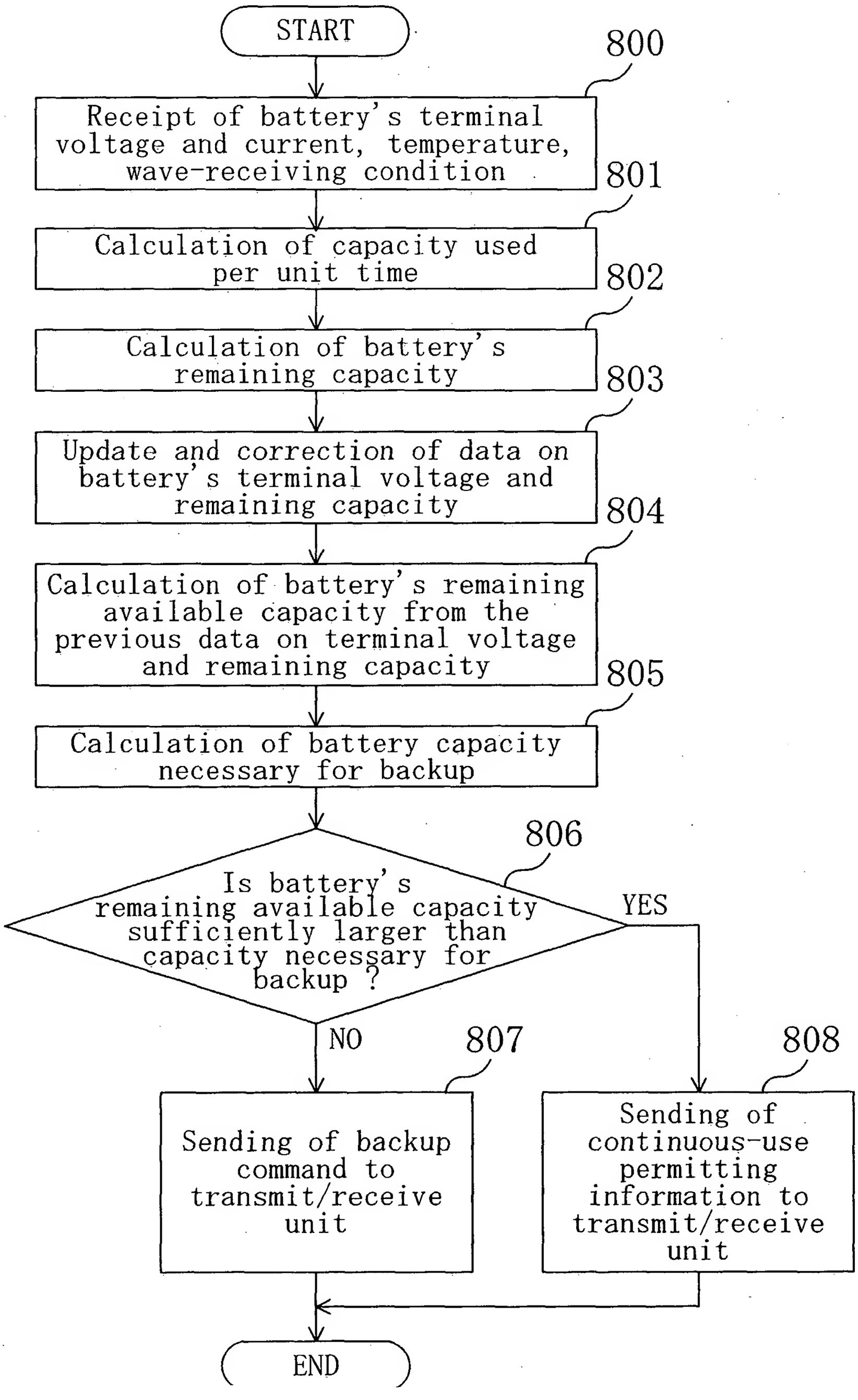

START
700
Measurement of battery's terminal voltage and current
701
Output of battery's terminal voltage and current, temperature, wave-receiving condition to transmit/receive unit.
702
Has continuous-use permitting information from radio base station been received?
NO
YES
703
Has backup command from radio base station been received?
NO
YES
704
Backup operation
END

FIG. 14


START
800
Receipt of battery's terminal voltage and current, temperature, wave-receiving condition
801
Calculation of capacity used per unit time
802
Calculation of battery's remaining capacity
803
Update and correction of data on battery's terminal voltage and remaining capacity
804
Calculation of battery's remaining available capacity from the previous data on terminal voltage and remaining capacity
805
Calculation of battery capacity necessary for backup
806
Is battery's remaining available capacity sufficiently larger than capacity necessary for backup ?
YES
NO
807
Sending of backup command to transmit/receive unit
808
Sending of continuous-use permitting information to transmit/receive unit
END